

PROFESSIONAL DEVELOPMENT COURSE

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ASME SECTION III - AN OVERVIEW

OBJECTIVE:

The objective of the course is to introduce participants to an overview of Section III of the ASME Boiler and Pressure Vessel (B&PV) Code. The course examines the concepts and principles that are the basis of the requirements in Section III for the materials and components used in the Pressure Boundary of a Nuclear Power Plant and how their requirements are applied in Canada. It examines the Section III requirements for the Certification of Documents, particularly the Design Specification, and reviews the Section III Code Articles of which a working knowledge is required for Canada.

CONTENTS: A three-day course consisting of the following:

Day 1 - Course Content	Day 2 - Course Content	Day 3 - Course Content
<ul style="list-style-type: none">• Introduction<ul style="list-style-type: none">- Review of participant needs and understanding of Section III• Basic Concepts and Terminology<ul style="list-style-type: none">- Structure of B&PV Code- Scope of Section III- Service Loadings and Limits- Code Class- Review of Concepts in the Glossary- Comparison with N285.0• Materials<ul style="list-style-type: none">- Definition- Control- Concepts of traceability and Certification- Section III Material- Requirements	<ul style="list-style-type: none">• Components<ul style="list-style-type: none">- Owner Responsibilities- Manufacturer- Certificates of Authorization- Design Specifications- Certification Requirements of N285.0 and Section III Design Reports- N285.0 Clause 7 Comparison• Quality Assurance, Inspection and Stamping<ul style="list-style-type: none">- Basic Elements of QA for Section III- Code Requirements for Inspectors- Concepts Behind Stamping and its use in Canada• Design and Overpressure Protection<ul style="list-style-type: none">- Jurisdictional Boundaries	<ul style="list-style-type: none">• Design and Overpressure Protection (cont'd)<ul style="list-style-type: none">- Design by analysis- Design by rule- Discussion of failure mechanisms- Welded vessels- Requirements for overpressure- Comparison with N285.0• Fabrication, Examination and Testing, and Other Subsections of Section III, Div. 1<ul style="list-style-type: none">- Review of Content- Connection with Design Welded Vessels- Requirements for Temporary Attachments• ASME and Canadian Standards<ul style="list-style-type: none">- Brief Overview of the Relationship Between Legal- Requirements and Codes and Standards comparing the United States with Canada• Checkout

WHO SHOULD ATTEND:

This course will introduce the participants to the fundamentals of Section III of the ASME Code. It is an intermediate course directed toward personnel such as Designers, Inspectors, Maintenance and Operations Personnel and Management who need to have an understanding of the Code concepts and how they are integrated into the Canadian regulatory system. Minimal experience with the Code and its application is desirable. It will allow persons required to certify Design Documents as required by the Section III, Division 1, to count this course as part of their experience base in accordance with the requirements in Appendix XXIII of Section III, Division 1.

EXPECTATIONS:

At the completion of this training session the participants with adequate experience will have attained the skills to:

1. Have an understanding of the concepts used by the Section III, Div. 1 Code to maintain Pressure Boundary integrity and to operate in a safe manner at the design conditions.
2. Have a working knowledge of the relationship between the various Subsections and Articles of the Section III, Div. 1 Code for Pressure Boundary components and its relationship with the corresponding Canadian Standard CSA N285 and how the Canadian requirements are integrated into the system.
3. Identify how the various books are structured and to summarize the scope of Section III.
4. Define the concept of classification with regards to ASME Section III and CSA N285.
5. Identify the duties and responsibilities for the various parties (Owner Certificate Holder).
6. Identify the specific material requirements associated with the construction class and how to compare material requirements when Code editions and Addenda are of an earlier version than the current Code.
7. Identify and select the correct QA program associated with the construction of Pressure Boundary Components

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